

A NEW SPECIES OF *NALLACHIUS* (NEUROPTERA: DILARIDAE) FROM COSTA RICA

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Abstract.—A new species of *Nallachius* is described from Guanacaste Province of Costa Rica, and relationships with other species discussed.

Key Words.—Insecta, Neuroptera, Dilaridae, *Nallachius*, Costa Rica

In the course of identifying a series of 14 *Nallachius* from Costa Rica for the Utah State Insect Collection, four specimens of an undescribed species were encountered. This species is herein described. Male genital terminology is that of Adams (1970). Original description based on four males, pinned, with genitalia mascerated in 10% KOH, stained in Chlorazol Black E, and preserved in glycerin capsules beneath the specimen.

Abbreviations.—b—basal piece of MA; CuA—cubitus anterior; CuP—cubitus posterior; dl—dorsal lobe of ectoproct; ect—ectoproct; gs—gonarcus; KOH—potassium hydroxide; MA—media anterior; ma-mp—anterior-posterior medial crossvein; ml—median lobe of aedeagus; MP1—first media posterior; mp1-mp2—first-second posterior medial crossvein; MP2—second media posterior; mu—mediuncus; r-m—radial-medial crossvein; R1—first radial vein; Rs—radial sector; 8S, 8T—eighth abdominal sternite and tergite; 9S, 9T—ninth abdominal sternite and tergite.

NALLACHIUS PARKERI PENNY, NEW SPECIES

Types.—*Holotype male:* COSTA RICA. GUANACASTE: 3 km SE of Rio Naranjo, 23–27 Jan 1992, F. D. Parker. Three paratype males from the type locality: 7–12 Feb 1992, 25 Feb–2 Mar 1992, and 10–20 Sep 1992, F. D. Parker. The holotype will be deposited with INBio (Instituto de Biodiversidad) in Santo Domingo de Heredia, Costa Rica. Two paratypes are in the Utah State University Collection, Logan, and one paratype is deposited at the California Academy of Sciences, San Francisco.

Description.—*Head.* Frons, clypeus, and vertex dark brown. Vertex bearing 3 protuberances, each bearing numerous long setae. Antennal scape quadrangular, pale basally, dark brown apically, bearing subapical, lateral long seta; pedicel 3.0× wider than long; 15 flagellomeres, first broader than long, others all much longer than wide, each bearing very elongate pectinate lobe, except apical 3. *Thorax.* Dark brown dorsally, pale yellow laterally and ventrally. Notum bearing numerous tufts of long setae. *Legs.* Pale yellow, with numerous long pale setae on all segments. Apex of tibiae with abundant long dark setae. *Wings.* Forewing length—4.1 mm: Darkly suffused transverse bands across forewing, as in Fig. 1. Costal crossveins numerous, not branched; 2 to 5 sc crossveins; 2 radial crossveins, the anterior one close to origin of first branch of Rs; 4 branches of Rs; MA two-branched; MP1 two-branched; MP2 three-branched; base of MP2 fused with CuA for short distance; 1 r-m crossvein; 2 ma-mp crossveins; two mp1-mp2 crossveins. Hindwing-length—3.0 mm: No sc crossveins anterior of pterostigmal area; 2 radial crossveins; 1 ma-mp crossvein and 1 mp2-cua crossvein (Fig. 2).

Abdomen. Pale yellow. Each segment with narrow transverse ridge dorsal and ventrally bearing

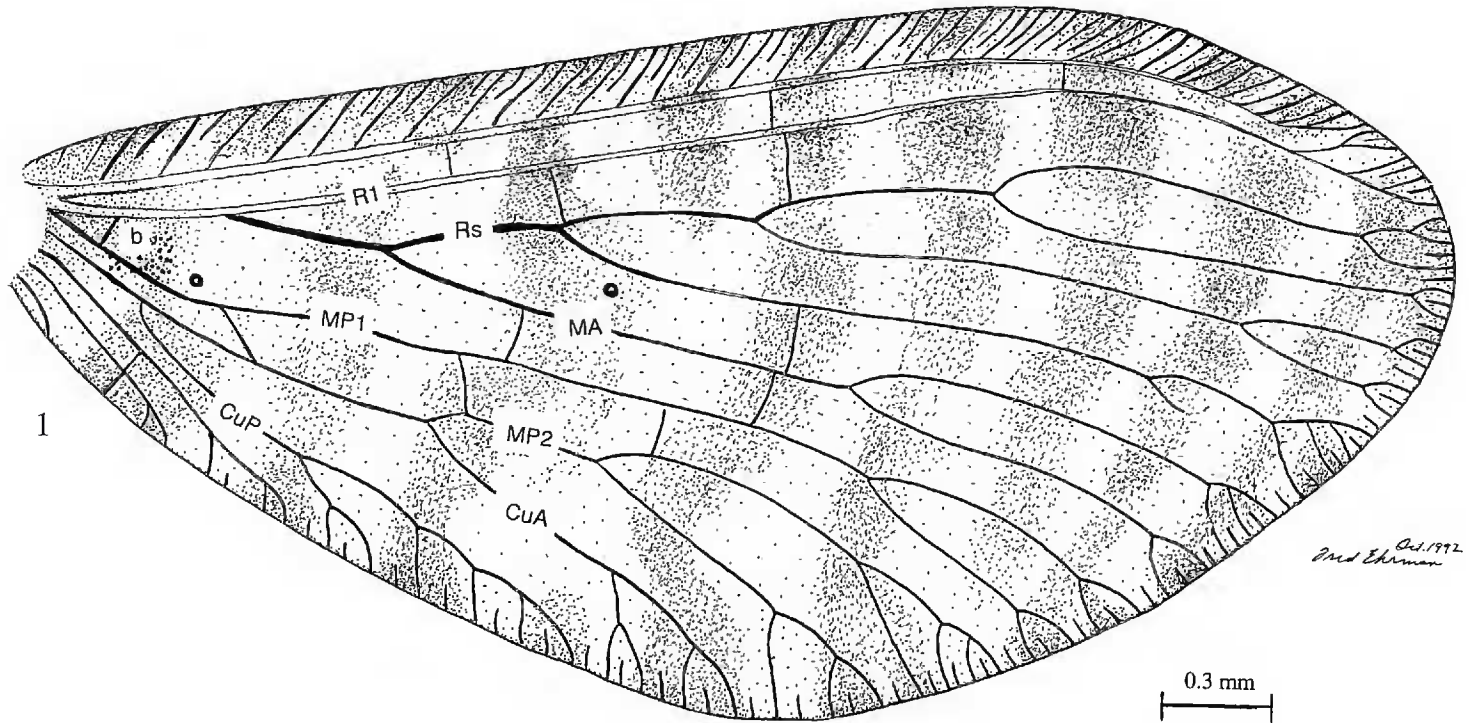


Figure 1. Right forewing of *Nallachius parkeri* NEW SPECIES.

numerous long dark setae. Each ridge narrowly divided along mid-ventral and mid-dorsal lines, as well as broadly separated laterally. *Male Terminalia*. Ninth tergite bearing pair of blunt tooth-shaped lobes closely appressed to dorsal surface. Ectoprocts bearing medial, bipartite, dorsal lobes with smaller acute tooth at lateral base (Fig. 3). Digitiform process of ectoproct absent. Gonocoxites very narrow and elongate (extending the length of ectoproct beyond abdomen), apically upturned and acutely tapered. Mediuncus very long, narrow, apically curved ventrally and acutely tapered (Fig. 4); median lobe bifid apically.

Diagnosis. — This species is a member of the *N. americanus* group, having forewing vein MP2 fused with CuA for a short distance. It differs from the other two species in this group by having only two r-rs crossveins, as opposed to *N. loxanus* Navás from Ecuador, which has five such crossveins. The only other species in this group, *N. americanus* (McLachlan) can be distinguished most easily by the male genitalia, which have much shorter gonocoxites, narrower, non-bifurcate dorsal lobes, a well developed digitiform process laterally on the ectoproct and a

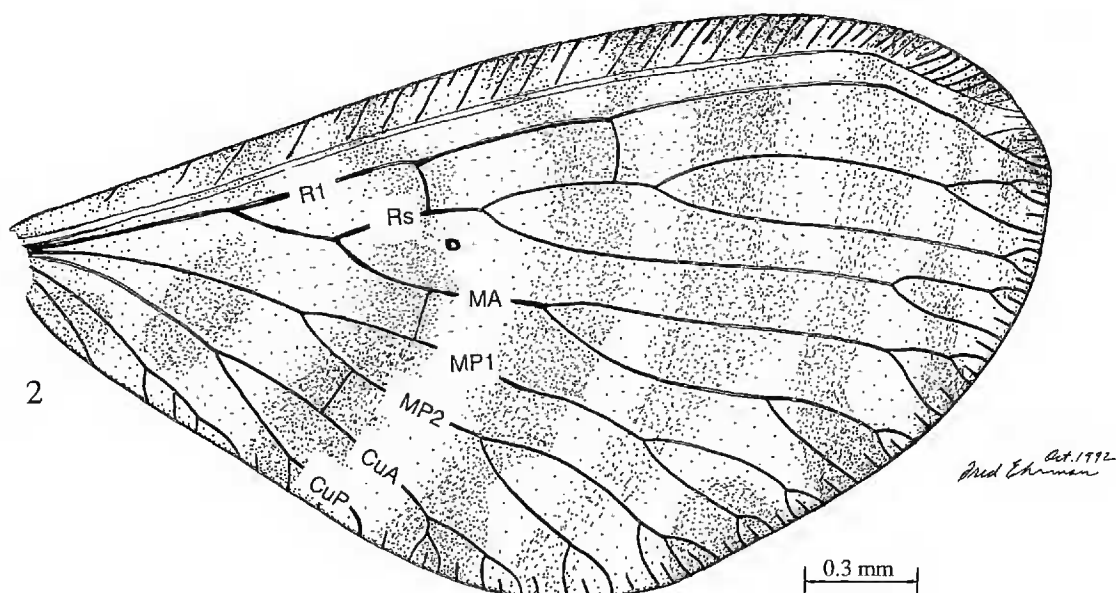


Figure 2. Right hindwing of *Nallachius parkeri* NEW SPECIES.

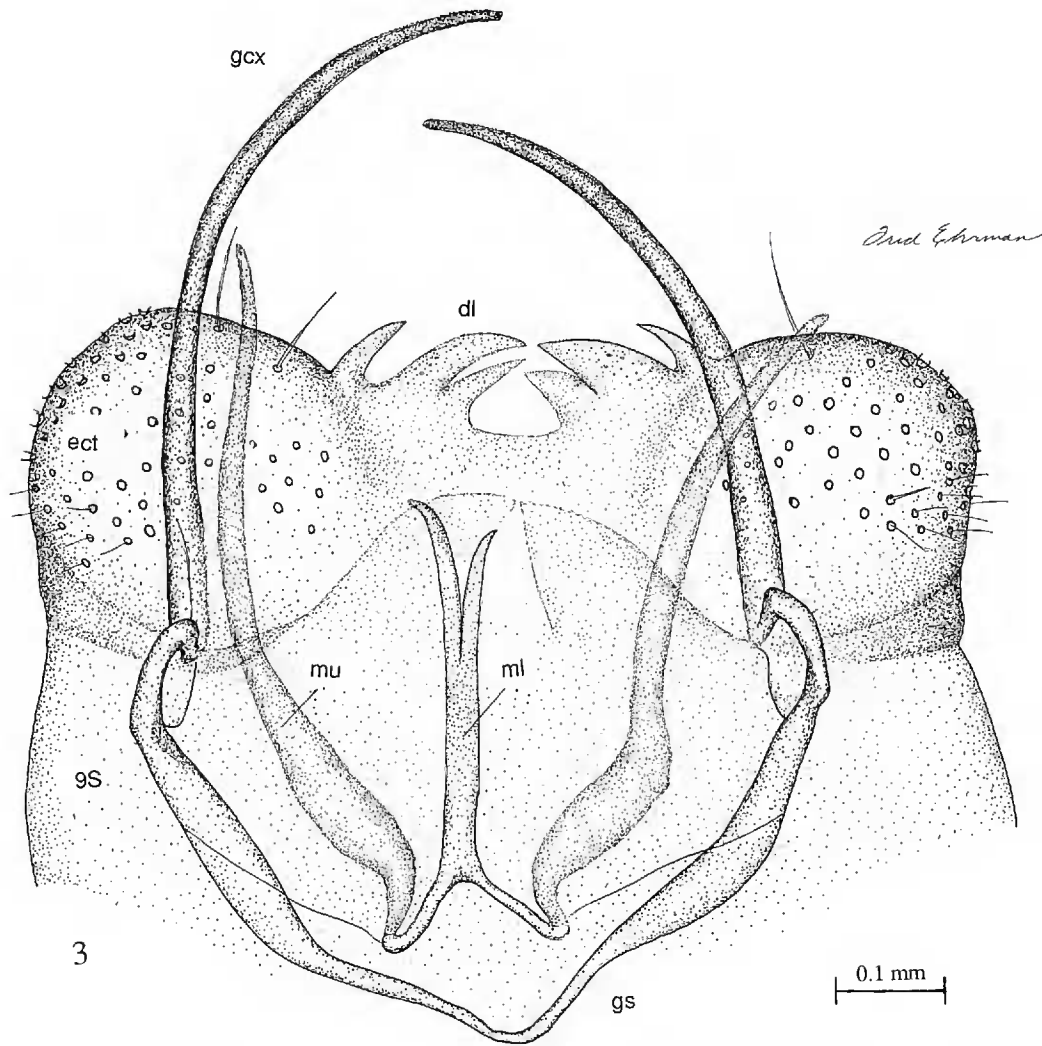


Figure 3. Apex of male abdomen of *Nallachius parkeri* NEW SPECIES (ventral view).

small medial point on the ninth tergite, as opposed to the flat, plate-like paired teeth of *N. parkeri*.

Etymology.—This species is named for Frank D. Parker, a Hymenoptera systematist, who has devoted several years studying the insect fauna of northern

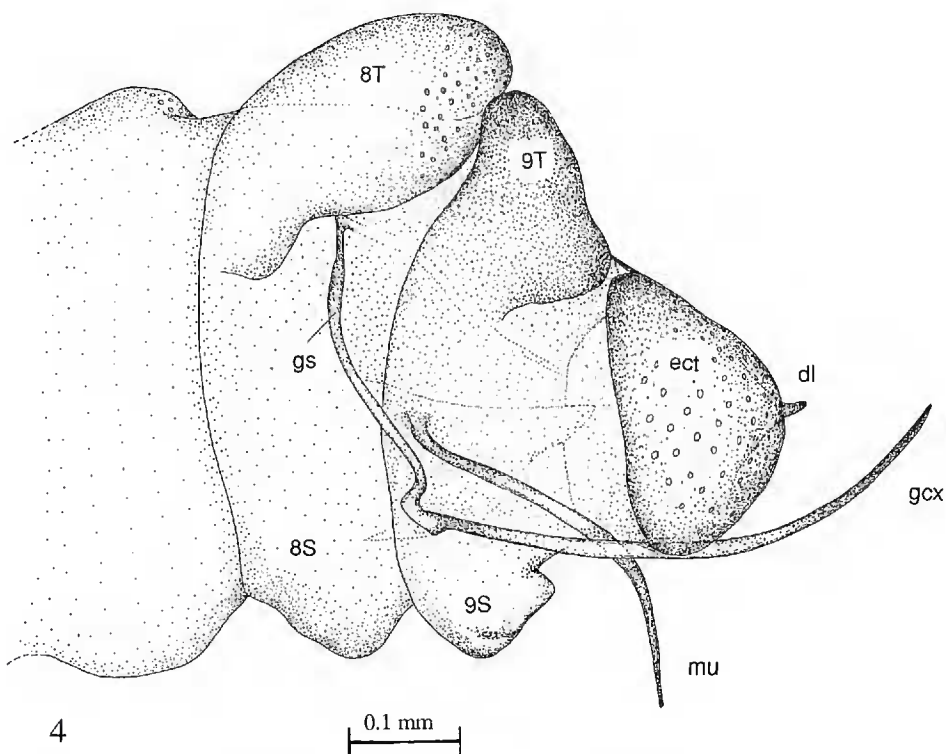


Figure 4. Apex of male abdomen of *Nallachius parkeri* NEW SPECIES (lateral view).

Costa Rica and who has collected all 14 specimens known to this author from this region.

ACKNOWLEDGMENT

The author thanks Fred Ehrmann for making the four illustrations used in this paper. A great deal of patience and keen observational skills were required to illustrate male genitalia less than 1 mm in length.

LITERATURE CITED

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